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Effectiveness of microcredit program and determinants of income among small business entrepreneurs in Malaysia

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Abstract

Together with Singapore, Malaysia is one of the successful cases in Asia achieving rapid economic growth. However the issues of poverty still being discussed today. Amanah Ikthiar Malaysia (AIM) is one of the dominant players contributing to the poverty eradication program in Malaysia engaging in microcredit program with supports from Malaysian government. Since microcredit has been effective as a poverty eradication agent among the poor, it is important to investigate the dimension of effectiveness of poverty eradication program carried out by AIM. The objective of this study is to investigate the dimension of effectiveness in microcredit program and to examine the determinants of total income after joining AIM program. Purposive sampling were applied to take a sample of 100 recipients of AIM microcredit program loan in Kuala Selangor, Hulu Langat, and Gombak in Selangor. Descriptive analysis, factor analysis, and multiple linear regression were used as a methodology to achieve the objective of the study. Factor analysis found four dimension of effectiveness in the microcredit program such as earning ability, payment scheme, member's cooperation, and well-being. Similarly regression analysis identified 3 variables that are significantly influence the total income after joining the program. These variables are; duration of loans received, amount of loans and number of employee. There are certain issues that need to be addressed to improve the AIM program especially those related to payment scheme and also finding timing for the recipients to graduate from the program as successful entrepreneurs.

Keyword: Amanah Ikthiar Malaysia (AIM); Microcredit; Poverty; Factor analysis; Regression

Background

Poverty has been one of the most controversial issues among developing countries. World Bank reported that that in 2010, over 900 million poor people (78 % of the poor) lived in rural areas, with about 750 million working in agriculture (63 % of the total poor). Most of the income gains needed to end poverty, therefore will need to come from activities in rural areas (World Bank, 2015). Due to the impressive poverty reduction achievements in Southeast Asia, between 1990 and 2008, Southeast Asia reduced extreme poverty from 45 % of the population to 17 % respectively (Allwine and Allwine 2013). Extreme poverty remains an alarming problem in the world's developing regions, despite the advances made in the 1990s. Progress in poverty reduction has been concentrated in Asia and especially East Asia (Diouf et al., 2002). However as

reported by World Bank (2015), there are still a lot of work needs to be done as one billion people (14.5 % of the world's population) could be classified as extremely poor. The World Bank Group's interim target of reducing poverty to single digits by 2020 seems unachievable, unless some drastic measures or policies being formulate to take the challenges by the respective countries. Thus in the quest of poverty elimination, the role of each country's Government is huge and the world bank have a role to play in providing fund to those government that require funding in their poverty alleviation program and government intervention is necessary to ensure optimal resources allocation such as income redistribution (Rajasekhar and Gayathridevi, 2007). In many countries microcredit programs have proved to be an effective tool in freeing people from poverty and have helped to increase their participation in the economic and political processes of society (United Nation 1995).

Developing and facilitating entrepreneurial activity is one way to alleviate poverty among the poor. The reduction of poverty through productive activities supports the efforts of developing countries in addressing this challenge. Since small and medium enterprises (SMEs) require innovation, entrepreneurship and competition which are important sources of productivity growth, International organization such as UNIDO supports the efforts of developing countries to improve the business environment which will promote domestic entrepreneurship and in particular development of the entrepreneurial skills of disadvantaged groups. Nevertheless in order to do so entrepreneur require capital and funding and micro-credit is one way to stimulate the entrepreneurship development. Though poverty is caused by many factors, including lack of skills, entrepreneurship, and human capital (Islam, 2012) but as Magnani (2014) rightly said, microcredit stimulates entrepreneurship, giving the beneficiaries the opportunity to undertake and renew an entrepreneurial process by providing micro financing. In the same token Mohummed, S.U.M. and Wencong, L. (2013), Rahman, M., & Khan, H. (2012), and Rahman, M., & Khan, H. (2012) has indicate that micro-credit is very effective in poverty eradication, thus the research questions are; what are the dimensions of effectiveness in micro-credit, and what are the determinants of increasing income level in the process of poverty alleviation.

In case of Malaysia there is a successful case study seen in poverty alleviation in using micro-credit. Government supported programs spearheaded by NGOs and the private sector, provided wider opportunities to the poor to improve their livelihood. The private sector and the various state-based poverty eradication foundations intensified their efforts in providing skills training as well as in-kind and financial contributions to the poor. Amanah Ikthiar Malaysia (AIM) was formed in 1986 as one of the dominant players contributing to the poverty eradication program in Malaysia engaging in micro-credit finance. AIM provides financial services to assist the poor households to earn income from self-employed activities and expand their existing economic activities. It increases their income by helping the poor with the idea of empowering them to achieve sustainable livelihood and out from poverty line. AIM has its origins in a research project designed to test the replicability of a credit delivery scheme modeled on the highly successful Grameen Bank of Bangladesh. During the Eighth Plan period, AIM provided micro-credit amounting to RM1.02 billion to 147,544 participants, mostly female and single mothers in rural areas. AIM operates through its 69 branches and 3,962 service centers throughout the countries. Through the Skim Pinjaman Ikhtiar,

implemented by the Amanah Ikhtiar Malaysia (AIM), about 67,000 women from the low-income group were involved in micro-credit enterprises. Women in the rural areas were also provided with opportunities to establish workshops and trading stall premises to facilitate their involvement in small businesses (Tenth Malaysia Plan 2011–2015).

Economic growth was inclusive having the share of households living below the national poverty line (USD 8.50 per day in 2012) fell from over 50 % in the 1960s to less than 1.0 % currently. For such economic growth and poverty alleviation, the government has played an important role especially in allocating funds to different ministries to undertake poverty eradicating programs such as the New Economic Policy (NEP) in 1970, National Development Policy (NDP) in 1991 and National Vision Policy (NVP) in 2001. According to Economic Planning Unit (EPU), poverty line income (PLI) takes into account the minimum requirements for food, clothing and shelter, and other regular expenditures that are necessary to maintain a household in decent standards of living. In 1990 the definition of poverty income line in Malaysian Ringgit (RM) was stated as RM370 per month for a household size of 5.1 in Peninsular Malaysia, RM544 for a household size of 5.4 in Sabah and RM452 for a household size of 5.2 in Sarawak. Hardcore poverty is defined as those households receiving less than half of the poverty line income (Second Outline Perspective Plan, 1991–2000). However there are still more than 200,000 households classified as poor with monthly gross household income. More than 40,000 households were classified as extreme (or hardcore) poor with monthly income less than RM440 (Transformation program, 2010). Table 1 shows the food PLI per month for 1977 to 2012. The PLI changed from year to year to accommodate the economic situation and inflation rate over time. There have been disparities between urban-rural areas in terms of poverty ratio. As indicated by Table 2, rural areas hold higher poverty ratio than urban areas, thus microcredit among the rural poor could enhance the poverty eradication program by the government.

Since 1998, in response to the economic crisis, the Government undertook measures to further expand social programs. However in the 10th Malaysia Plan, the objectives of AIM still remain the same to eradicate hardcore poverty in its operation areas through the provision of benevolent loans designed to finance income-generating activities and to attain financial viability through income (Fatimah-Salwa et al. 2013). In which Malaysian Government launched 1Malaysia Entrepreneur (1MET) in 2013 to drive forward development of entrepreneurship in the country. This is an important effort to eradicate poverty and improve peoples' income level (The star online Budget 2014). As clearly seen here, the challenge still remains to encourage people to be involved in entrepreneurship which require the micro-credit financing. In order to diffuse the program more for future entrepreneurs in Malaysia, there is a need to disseminate the existing of micro-finance and why the AIM micro-credit is effective way of financing their business and what are the

Table 1 Food Poverty Line Index (PLI) based on 1977 and 2012 methodologies (RM per month)

Region	1977	1990	2005	2012
Peninsular Malaysia	272	370	398	830
Sabah	352	544	503	1,090
Sarawak	304	452	482	920
Malaysia	294	455	415	947

Source: Government of Malaysia, 9th and 10th Malaysia Plan, 2006–2015, E-kasih national data bank of poverty Malaysia, 2013

Table 2 Incidence of poverty by state and strata, Malaysia, 2012

State	Incidence of poverty (%)					
	Poor			Hardcore poor		
	Total	Urban	Rural	Total	Urban	Rural
Malaysia	1.7	1	3.4	0.2	0.1	0.6
Johor	0.9	0.7	1.4	0.1	0.1	0.0
Kedah	1.7	1.1	2.6	0.1	0.0	0.4
Kelantan	2.7	1.8	3.4	0.3	0.2	0.4
Melaka	0.1	0.2	0.0	0.0	0.0	0.0
Negeri Sembilan	0.5	0.5	0.3	0.1	0.1	0.0
Pahang	1.3	1.1	1.4	0.2	0.2	0.2
Pulau Pinang	0.6	0.5	1.0	0.0	0.1	0.0
Perak	1.5	1.1	2.2	0.2	0.0	0.4
Perlis	1.9	0.9	2.6	0.5	0.2	0.6
Selangor	0.4	0.2	2.3	0.0	0.0	0.0
Terengganu	1.7	1.5	2.0	0.2	0.2	0.2
Sabah	8.1	5.3	12.7	1.6	0.6	3.2
Sarawak	2.4	1.1	4	0.3	0.3	0.4
W.P. Kuala Lumpur	0.8	0.8	n.a.	0.1	0.1	n.a.
W.P. Labuan	1.1	0.6	2.7	0	0	0
W.P. Putrajaya	-	-	n.a.	-	-	n.a.

Source: Household income and basic amenities survey report, 2012

factor influencing on their income after joining the AIM microcredit program. Thus the objective of this study is to underline dimension of effectiveness in microfinance program instituted by AIM in poverty eradication and to determine the factors that contribute to enhancing the level of income of the micro-credit receipient.

Literature review

Whilst in theory, microfinance services combined with interventions to empower women lead to positive benefits, including enhanced household economic status, improved status and decision-making power of the borrower within the household and the community, and reduced economic and social subordination for some women (Waithanji et al. 2014). The meaning of microfinance with the narrower version refers to: a small amount of loan given to the poor at subsidizes interest rate. A broader version has evolved with revolutionary approach to develop finance with the provision of the financial services such as credit, savings, insurance, money transfer to poor and low-income households and their micro enterprises. According to Steiner (2000), microfinance can be defined as formal schemes designed to improve the well-being of the poor through better access to saving services and loans. Meanwhile, Christen et al. (2003) referred microfinance as micro-credit for small informal businesses of micro entrepreneurs. Mainly the services are delivered by socially oriented non-governmental organizations (NGOs). Gonzalez-Vega (1998) defined microfinance as the provision of various types of financial services (loans, deposit facilities and instruments for the transfer of funds) to marginal clienteles (especially the poor). He stated that microfinance warrants public attention because it is very difficult to supply financial service to the target population. Since theories of development stressing strong local institutional

capacity predict a strong correlation with sustainability (Snow, 1999), microcredit program provides sustainable development in society especially among the recipients.

There are many studies conducted among less developed countries on the effectiveness of microcredit. Notably studied on Graman Bank of Bangladesh as one and foremost microcredit institution that have created an impact of effectiveness of its microcredit among women in Bangladesh. Twyeafur and Hafiz (2012) conducted a study measuring beneficiaries' attitudes towards the microcredit program among beneficiaries for more than three years. The objective is to explore beneficiaries' attitudes towards their welfare under the microcredit program. Borrowers were asked questions about incomes, training, economic status, repayments, business skills, technical skills, social awareness and children's education. The study indicated that a vast majority of borrowers expressed positive attitudes towards the microcredit program indicating that beneficiaries could improve their socioeconomic status through prolonged involvement, amount of loan borrowed and training provided by the program. Ullah Mazumder and Wencong (2013) conducted a study in Bangladesh and giving an overview about access to microcredit for rural poor and its impact on their poverty situation among 360 microcredit recipients. The findings reveal that positive impact was found on income, assets endowment, standard of living and poverty reduction. Utilization of credit appears to be major factor for credit recipients raising income. Kazi Tanvir et al. (2007) accessed whether the participants were benefited or not as result of intervention of the microcredit project among 330 recipients in Bangladesh under the agriculture diversification and intensification project. The result showed that year of schooling, training provided by the program, mobility of borrowers, and household size were significantly related with borrowers' betterment as dependent variable.

The microcredit has been effective tool for poverty eradication not only in Bangladesh but also in various countries among European Union with several types of form (EMN bulletin, 2012). Due to the absence of a legal framework for microfinance activities in Spain allowed the financial sector (Banks and Saving Banks) to lead the sector and left NGOs to play a supporting role in the social activities. While the microcredit program is operated by non-profit foundations in Hungary started in 1992 and has been successful in eradication of hard core poor problems. In Romania, ministry of labour and Ministry of economy receive public funds from the World Bank through microfinance institutions in order to implement the programs for entrepreneurship development. In a survey conducted by European Microfinance Network (2006) among European Union, 106 organizations responded to the questions on monitoring the outcome of microcredit finance to small business. The results of the study shows that microcredit viewed as positively in terms of job created, income increased, business profitability and changes in assets. In Southeast Asian countries there are cases for microcredit programs. For instance in Thailand, there was a study comparing impact of the microfinance programs among 444 households in 14 villages in Northeast Thailand (Coleman, 2006). Results indicated that the wealthier villagers are significantly more likely to participate than the poor. Moreover, the wealthiest often become program committee members and borrow substantially more than rank-and-file members. The programs positively affect household welfare for committee members, however policy recommendations include vigilance in targeting the poor, publicly disseminating the program rules and purpose, and introducing and enforcing eligibility criteria. In

Indonesia, the sample of 60 micro-enterprises were monitored by Widiyanto (2007) in Central Java. The results was very encouraging where by the effectiveness, and impact and social benefit of the program among the micro enterprises not only by increasing technical efficiency but also the well- being of the microcredit recipients.

In Malaysia, a study by Gikonyo et al. (2006) revealed that microenterprise projects initiated under the Rural Women's Extension Group are the main source of income for the majority of families under these projects. Microenterprises made significant contributions to development, especially of rural communities by increasing household income and creating employment opportunities to the rural population. In order to profile successful microcredit entrepreneurs, Fatimah-Salwa et al. (2013) conducted a research to identify the key factors contributing to the success. The sample of this study comprises 250 entrepreneurs who joined the scheme of I-Wawasan in Perak. In this study, the total assets owned which is employed to measure success of microcredit entrepreneurs is used as the dependent. The independent variables that measure success factors however comprises the total amount of microcredit financing, education, government support and experience. The result of multiple regression (stepwise) indicated that, all the factors related to the success of microcredit entrepreneurs are important element towards the success of microcredit entrepreneurs. Suryani (2007) found that AIM activities are perceived by its recipients as effective and contributed to poverty alleviation in Malaysia. AIM not only acts as an economic stimulator, but also far reaching social impacts on its members.

AIM's internal impact evaluation studies have showed that the very poor have been reached and benefited substantially from the loans (Gibbons and Sukor; 1991), the provision of microcredit to the poor and hardcore poor has been lauded as one of the most successful attempts to eradicate poverty. There was a study conducted to measure the impact of Amanah Ikhtiar Malaysia's (AIM) microcredit schemes on hardcore poor household's quality of life in Peninsular Malaysia (Abdullah, 2010 and 2012). This study examined whether participation in AIM's microcredit programs improves the hardcore poor households quality of life. A quality of life index using eleven selected indicators was developed. Findings of this study extend the literature by providing empirical evidence that access to microfinance improved quality of life of the poor rural households in Malaysia. The findings confirmed that older respondents live in better and bigger houses, use permanent housing materials, use environmentally safe cooking fuel, enjoy healthy toilet facilities, own refrigerators, washing machines and televisions more than the new respondents. Also it was shown that respondent's participation status was associated with the size and quality of their houses.

In order to evaluate the economic performance of recipients participating in the microcredit program of AIM, econometric model was applied (Norma and Jarita, 2011). Several proxies were used for the economic performance, such as level of earnings/income, ratio of spending to income and value of assets as dependent variable. The independent variables used were education level, age, amount of loan, source of income, and ownership of assets. The study found that the economic performance of AIM participants was significantly determined by the amount of money borrowed from AIM. Other factors found to influence the respondents' economic performance was education level, age, gender, assets owned before joining AIM, and area of residence. Because level of education was found to contribute significantly to the economic

performance of AIM participants, it was suggested that AIM should work to educate its recipients. In particular, it should provide business training.

There were many perspectives to study on the microcredit program for entrepreneurships in abroad such as farmers' attitude, quality of life, asset and housing condition. However, overall the trend of microcredit studies in Malaysia have been focusing on effectiveness, income and asset increment in the microcredit recipients business. In order to get a clue to introduce and diffuse the microcredit program more, those studies attempted to find out determinants of recipients economic level with various factors as context of recipients. This could be because of the challenges left in poverty eradication in Malaysia.

Methods

In conducting the research, a purposive sampling were applied and a sample of 100 recipients of AIM microcredit program loan were selected via their weekly meeting. Suggested by Ho (2013) and Hair et al. (1995) for factor factor analysis of basic requirementand 45 statements were reduced to 12 statements for increasising the realiability. Survey areas were in Kuala Selangor, Hulu Langat, and Gombak in Selangor. However, this study could only afford 100 respondents which is least number for factor analysis. This is an issue and may affect the quality of the results. Purposive sampling involve studying the entire population of some limited group or a subset of a population in order to examine effectiveness of some intervention with clients who have particular characteristics (Engel and Schutt, 2014). Purposive sampling also being used by Joko (2014) and Below et al. (2012) in data collection and regression analysis. Since AIM recipients have a weekly meeting at a center at different location, this will be used to gather the necessary information from AIM clients.

Structured questionnaire was used as an instrument for this study that includes open and close-ended questions in order to achieve the objectives of the study. The questionnaire is divided into two parts: 1) respondent profiles, and 2) factors that contribute to recipients' success in small business, 3) determinants of income from small business supported by AIM. In terms of effectiveness, respondents were asked to express agreement or disagreement on a five-point Likert scale statements with regards to the outcome from the microcredit that the recipients has taken. Factor analysis was applied to generate important latent factors that could explain the effectiveness of microcredit among AIM project participants.

The conceptual frame work of the study is based on Fig. 1. The basic aim of microfinance is to increase the utility of the recipients so as they are better off from their previous status. Thus the mount of loan taken and the duration of loan received are an important variables in enhancing the microfinance recipient to generate new or enhance their micro businesses or enterprise. Hence increase in income as an indicator of the wellbeing and indicating the shift of utility indifference curve upwards. The demographic factor also plays important role in influencing the success of microcredit utilization. Thus the relationship between utility U and the value of money V is expressed as $U = f(V)$ of the person descried as the relationship between the utility of money for a person and the value of money (Sheng and Ginsberg, 1998).

For revealing influential determinants on total income of the microcredit recipients, the respondents were asked to answer total income after joining the program and

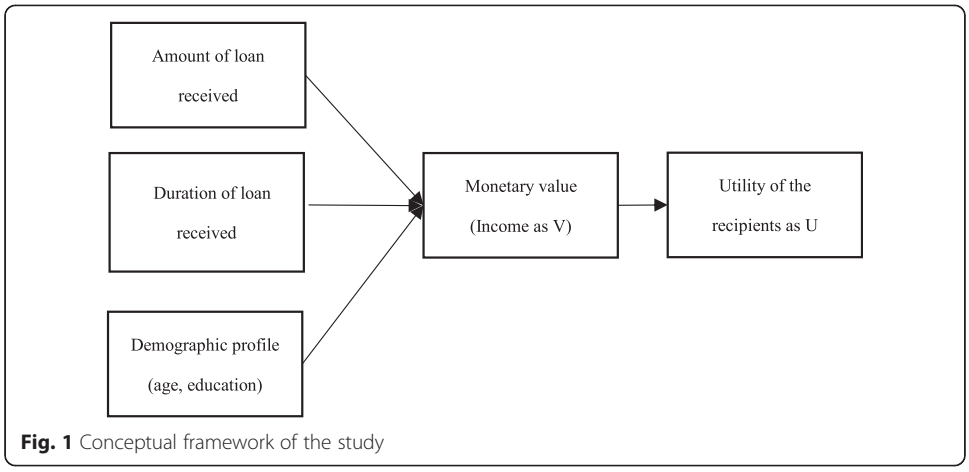

Fig. 1 Conceptual framework of the study

related information such as changes in income and well-being either as positive and negative changes respectively. Multiple linear regression analysis was conducted to determine the influential factors on total income after the recipient joining microcredit program. Total income after joining microcredit program as dependent variable and others as independent variables such as farmers' demographic profiles, loan amount received, duration receiving loans (years), business sector and incensement of employee.

The regression model used can be specified as follows:

$$Y = a + b_i X_i + \ldots + b_j X_j + u;$$

Where;

- Y is total income after joining microcredit program (ringgit per month),
- X_1 is loan amount received (ringgit per month),
- X_2 is duration receiving loans (in years),
- X_3 is business sector; 0 = non agro-based industry, and 1 = agro-based industry,
- X_4 is number of employee in business; 0 = same number of employee after joining the microcredit program, and 1 = number of employee increased after joining the microcredit program,
- X_5 is age of respondents; 0 = younger than 34 years old, and 1 = older than 34 years old,
- X_6 is a dummy for education level of respondents; 0 = before tertiary, and 1 = tertiary,
- X_7 is household size of respondents; 0 = less than 5 persons, and 1 = more than 5 persons.

In the regression analysis we postulate that the amount of loan received will have positive relationship with the total income, the non-agro-based businesses, number of employee, age of respondent, higher education level and household size will have positive relationship as well.

Results and discussion

Demographic profile of interviewed farmers in Selangor is shown in Table 3. The mean age of respondents was 39 years old and were all female. The majority of respondents have completed elementary school as educational background, however only 24 of

Table 3 Demographic profile of AIM microcredit recipients

	No.	Min	Max
Mean age (years old)	39	23	64
Education			
Secondary	76		
Tertiary	24		
Marital status			
Single	6		
Married	94		
Average household members (persons)	4.5	1	9
Period of on-going business (years)	5.3	0.1	20
Period of AIM support received (years)	2.5	0.1	7

Source: Own survey, 2014

them have diplomas. Majority of the respondent were married with average family size 4.5 persons per household. Average years of involving in running the business were 5.3 years. While average years in receiving AIM microcredit was 2.5 years.

Factor analysis was applied to uncover the latent factors underlying AIM microcredit recipients towards effectiveness of microcredit program. Reliability test were conducted on 45 statements (total items in the questionnaire) regarding the effectiveness of AIM microcredit program based on five points Likert scale, however, 33 statements were deleted to give the highest variances in explaining the effectiveness of microcredit in enhancing recipient's welfare. Kaiser-Meyer-Olkin (KMO) test of sampling adequacy and Barlett's test of Sphericity were performed on all the statements to confirm the appropriateness of applying factor analysis. The results of KMO test was the value of 0.739 as shown in Table 4. It shows that the sampling adequacy is adequate. The factor analysis appropriately to be carried out. The factor loading from the principal component of factor analysis was conducted after the varimax rotation of the 12 statements for effectiveness of microcredit program by AIM. In order to obtain the rotated factor matrix, items only with factor loading of 0.6 and above were considered as valid items. Given the criteria 11 items were further deleted. Hence four latent factors were uncovered which have sufficient internal reliability consistency with factor loading of 0.743 to 0.908 as shown in Table 5.

The four latent factors which account for about 72.602 % of the total variance are summarized in Table 6. The effectiveness microcredit program can be explained by factors such as Earning Ability, Flexible Repayment Scheme, Members' Cooperation, and Well-being.

Table 4 Reliability test for the information (statements) obtained from AIM participants

Kaiser-Meyer-Olkin measure of aampling adequacy	0.739
Bartlett's test of sphericity	498.626
Significance	0.000

Source: Own survey, 2014

Table 5 Results of Reliability Test for the underlying latent factors of effectiveness of AIM microcredit program

Factor	Cronbach's alpha score	Number of item
Earning ability	0.891	4
Payment scheme	0.766	3
Members cooperation	0.824	3
Well-being	0.531	2

Earning ability

This factor consist of four sub-variables and has a total variance of 25.218 %: *AIM microfinance program help to increase income* (0.785). This is followed by *AIM program increase members' skills to manage their loan* (0.872), *AIM program can develop sense of responsibility and saving to pay back loan* (0.908), and *Members satisfied with stable income generated from their business supported by AIM* (0.834). The result of this factor

Table 6 Results of factor analysis in identifying the underlying latent factors of effectiveness of microcredit program

ITEMS	FACTORS			
Earning ability	Factor 1			
1. AIM microfinance program help to increase income.	0.785			
2. AIM program increase members' skills to manage their loan.	0.872			
3. AIM program can develop sense of responsibility and saving to pay back loan.	0.908			
4. Members satisfied with stable income generated from their business supported by AIM.	0.834			
Variance	25.218			
Payment scheme		Factor 2		
1. Local agencies does play an important role by helping members to promote and market their products		0.814		
2. An efficient process of loan repayment could ensure the success of member's project.		0.815		
3. Members do not feel the pressure to pay back the loan due to it amount and the repayment schedule has been set in accordance to the loan given.		0.743		
Variance		17.323		
Members cooperation			Factor 3	
1. Close relationship among participants help to give confidence to members in doing their business			0.772	
2. Continuous projects monitoring from AIM officers help the members to be more responsible			0.765	
3. Teamwork and supports from members are important factors which contribute to the success of AIM program among members			0.847	
Variance			16.76	
Well-being				Factor 4
1. AIM program gave better access to my children education.				0.813
2. Better access to healthcare and better foods.				0.885
Variance				13.297
TOTAL VARIANCE				72.602

Source: Own survey, 2014

explains that the program recipients are satisfied with their income and think of their finance skills improved.

Payment scheme

This factor has a total variance of 17.323 %: Local agencies does play an important role by helping members to promote and market their products (0.814). This is followed by *An efficient process of loan repayment could ensure the success of member's project* (0.815), and *Members do not feel the pressure to pay back the loan due to it amount and the repayment schedule has been set in accordance to the loan given* (0.743). The result of this factor explains that the microcredit recipients negatively evaluates the repayment scheme and the process.

Members' cooperation

This factor has a total variance of 16.760 %: *Close relationship among participants help to give confidence to members in doing their business* (0.772), and Continuous projects monitoring from AIM officers help the members to be more responsible (0.765), and Teamwork and supports from members are important factors which contribute to the success of AIM program among members (0.847). The result of this factor explained that the recipients look at their membership involved with other recipients and AIM officers valuable.

Well-being

This factor has a total variance of 13.297 %: *AIM program gave better access to my children education* (0.815). This is followed by *Better access to healthcare and better foods* (0.885). The result of this factor explained that the recipients have better access to the education and healthcare services after joining the microcredit program.

After the exploratory factor analysis, multiple regression was then estimated to determine the relationship between the dependent and independent variables. Table 7 presents the results of the estimated model of income after joining or having microfinance. Total income was used because all respondent reported positive changes to income after joining the AIM microcredit program. The coefficient of determination (R^2) is 0.640, indicating that the factors (variables) in the model explain 64.0 % changes in

Table 7 Estimated multiple linear regression coefficients of contributing factors on total income after joining microcredit program

Dependent variable	Independent variables	Regression coefficient	T-value	Sig.
Total income after joining microcredit program	Constant	2,275.945	6.353	0.000**
	Loan amount received (monthly)	1.320	5.418	0.000***
	Duration receiving loans (years)	316.406	2.238	0.028**
	Business sector	−383.646	−1.204	0.231
	Number of employee	1,085.17	3.262	0.002***
	Age of respondents	669.279	2.021	0.046**
	Education level of respondents	−519.904	−1.391	0.167
	Household size of respondents	−684.508	−2.209	0.030**

Source: Own survey, 2014
Note: ***denotes significant at the 1 % probability level. **denotes significant at the 5 % probability level.

income (positive changes). F-value was 26.103 indicating significant overall relationship between the dependent variable and the set of all dependent variables. Out of seven variables, there were five variables which are statistically significant influencing on the monthly income. Regression coefficients, especially duration receiving loans (years), amount of loan, number of employee, and age of the respondents appears to have positive effects on total income after the respondents joins AIM program.

The results of the study is consistent as studied by Mahmud et al. (2007), Norma and Jarita (2011), Twyeafur and Hafiz (2012) and and Mohummed and Mencong (2013) where the amount of loan received and number of employee are positively contributed to the monthly income of the recipients respectively in Bangladesh. Similarly the duration of loans, age and household size of the respondents were found to be significant as influential determinants on income at 5 % level. The result indicated that each one year increase in duration receiving loans, there is an increase in total income of RM 316.40 per month. In the case that number of employee has been increased after the respondents joined AIM program, total income has been increased to RM 1,085.168. The older than 34 years old respondents, there is an increase in total income of RM 669.279.

Conclusions

This study attempts to assess the factors that contribute to the effectiveness of microcredit finance instituted by AIM to small business operators. It was shown that respondents are positively coping with microcredit program as participants observed from 4 dimensions of effectiveness in microcredit program. Factors such as Earning Ability Payment Scheme, Members' Cooperation, and Well-being have been identified as the factors that could be used as influential factors of the effectiveness of microcredit finance among the small business operators. The respondents were satisfied with household income and saving that has been generated due to AIM microfinance program. Thus AIM microcredit program among the small scale business is able to move the individual utility indifference curve to the next level. Not only their income have improved but the satisfaction also can be in intangible form where by societal traits of cooperation and caring among the microcredit loaners has been developed. Communication and teamwork brought more successful cases among participants due to monitoring and motivation among members. This could be due to the systems that instituted by AIM in having weekly meeting among the loaners and make them close to each other. Similarly the easy repayment scheme of loan make it more attractive for the loaners to take microcredit financed from AIM. Amount of loan the recipients received and duration of the time receiving the loan influenced on total income. AIM microcredit program clearly gives an opportunity to increase total income from their business. In the same token given an increase in income will have the spillover effect on the welfare of the microcredit recipient's. Loan amount and duration received, number of employee number, age and family size of respondents have positively influenced on total income after joining AIM microcredit program. Although more loans amount and longer duration contribute to higher total income, it is important for the recipients to look at the right timing to leave the program. Further study need to clarify the success factor of the ex-recipients from AIM microcredit program.

Appendix

Precondition for joining AIM microcredit program

There are certain requirements for people who are going to be AIM microcredit recipients.

Eligibility to be the Members of AIM.

(1) Citizenship Status;

Malaysian citizen who has identity card (MyKad) aged 18 years and above.

b) Income Eligibility Limits

Household income eligibility limit for joining AIM is RM3,050 and RM610 per capita stands.

c) Limit Value Asset Ownership

The valuation of asset ownership must not exceed the following values:

i. Alienated land in the name of KIR not more than three (3) acres.
ii. Own home with the estimated present value not more than RM200,000.
iii. Owners of vehicles with the estimated present value of a vehicle cannot exceed RM50,000.

Terms and Conditions of Funding are addressed as follows;

1) Without collateral or guarantors
2) Establish a group with 5 members reliable and undergo basic training financing for 5 days (1 day and 1 ½ hours).
3) Establish a center.
4) Attend meeting center links every week.
5) Contribute 1 % from the support to the financing fund welfare and 'sahabat' welfar.
6) Saving in the group fund links every week.
7) Refunded the support Weekly.
8) Contribute to donation fund debt.
9) Financing charges 10 % per year or 5 % per 6 months.

Abbreviations

AIM: Amanah Ikthiar Malaysia; EPU: Economic Planning Unit; EMN: European Microfinance Network; FELCRA: Federal Land Consolidation and Rehabilitation Authority; FELDA: Federal Land Development Authority; KMO: Kaiser-Meyer-Olkin; NDP: National Development Policy; NEP: New Economic Policy; NGOs: Non-Governmental Organizations; NVP: National Vision Policy; RISDA: Rubber Industry Smallholders Development Authority; PLI: Poverty Line Income; RM: Malaysian Ringgit; SEMs: Small and Medium Enterprises; UNIDO: United Nations Industrial Development Organization.

Competing interests

The authors declare that they have no competing interests.

Authors' contributions

JTTJ carried out the data collection, RT conducted the analysis and ZM participated in drafting the article.

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